S354UFER

Instruction Manual

External Multi Bay Hard Drive Enclosure

3.5” 4 Drive eSATA USB FireWire External Multi Bay Hard Drive Enclosure with RAID

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Introduction

StarTech.com's S354UFER External Multi Bay Enclosure is a high-performance 4-drive SATA enclosure that connects to host systems through eSATA or USB or FireWire.

Packaging Contents

- 1 x S354UFER enclosure
- 1 x Screw driver and screw kit
- 4 x Hard Drive Handles
- 1 x Univeral Power Adapter with 3 Power Cords (NA/UK/EU)
- 1 x eSATA cable
- 1 x USB cable
- 1 x 6-pin FireWire cable
- 1 x 9-pin FireWire cable
- 1 x Instruction Manual

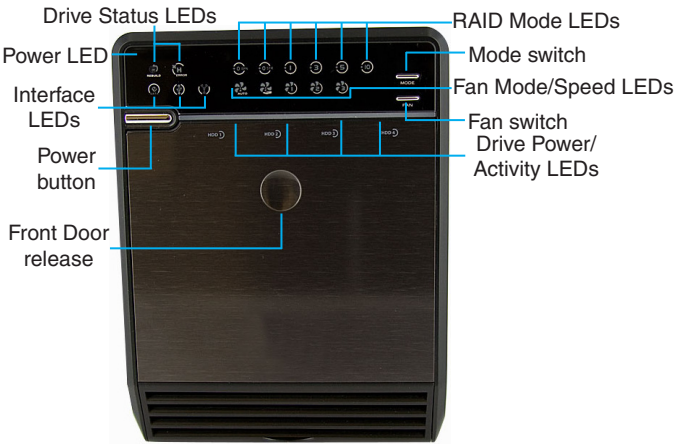
System Requirements

- USB or eSATA* or FireWire enabled computer system
- Microsoft Windows® 2000/XP/Server 2003/Vista, Mac OS® 10.3 and later or Linux®

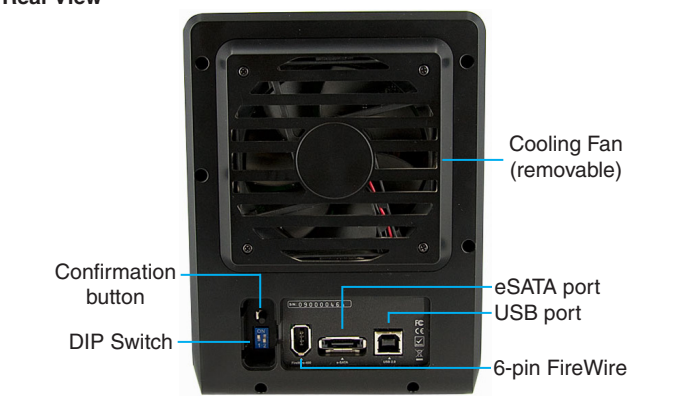
*If connecting the enclosure to a host computer using the eSATA port, please note that in order to use some of the RAID modes of the enclosure, the eSATA port on the host computer system **must provide** Port Multiplier support. If the eSATA port does not offer Port Multiplier support, only one of the installed drives will be accessible.

Installation

Front View



Rear View



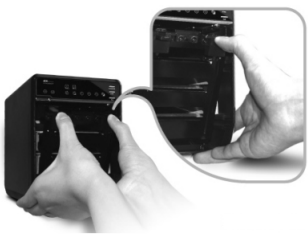
Side View

Hardware Installation

1. Secure the included Hard Drive Handles to the hard drives with the supplied screws and screw driver.

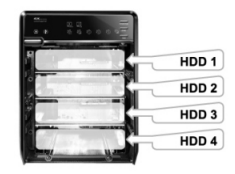
2. Press the front door in to release the latch and open the door. The door is also removable for easier access.

3. Inside will be a metal drive cage in front of the drive bays. Along the top of the drive cage are two small tabs. Press them down to release the cage and remove it.



4. Remove the cardboard inserts (if first time setup) and then insert the hard drives into the slots. If installing less than 4 drives, ensure a drive is installed in the bottom slot. This will help when reinstalling the metal cage. Hard drives can be removed from the enclosure by pressing down on the handles, then pulling them out.

5. Once all of the hard drives are installed, reinstall the metal cage and front door. Make sure the bottom of the cage stays inside of the track before closing the cover.



6. Connect the power adapter DIN connector into the side of the enclosure and power up the enclosure.

Driver Installation

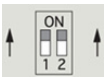
Windows 2000/XP/Server 2003/Vista, Mac OS X, Linux

No driver installation is required for these operating systems, as this enclosure is natively supported, so the drivers are already installed.

How to Use

Hard Drive DIP Switch

The DIP switches on the rear of the hard drive enclosure first needs to be set, depending on the number of installed hard drives in the enclosure. The number of hard drives affects the available RAID modes that can be selected.

Number of Drives	DIP Switch	Available RAID Modes
2		RAID0 (Span), RAID0 (Stripe), RAID1 (Mirror)
3		RAID3, RAID5
4		RAID0 (Span), RAID0 (Stripe), RAID3, RAID5, RAID10 (Stripe+Mirror)

RAID Mode

While the enclosure is powered on, press and hold the ‘Mode’ button for three (3) seconds until one of the RAID LED’s start to flash. Pressing the ‘Mode’ button will now switch between available RAID modes. Once set, press the ‘Confirmation’ button in the back of the enclosure. The enclosure will power off. Once powered back on, it will be set for the desired RAID mode.

LED	Status	Description
	ON	**SPAN:** Spanning concatenates multiple hard drives into a single large disk. Provides no performance or redundancy benefits.
	OFF	
	ON	**RAID 0 (Stripe):** Striping combines multiple disk into a single large disk array. The data is split evenly across each disk simultaneously. Read/ write performance is increased as a result, but failure of any one disk will make the entire array unusable.
	OFF	
	ON	**RAID 1 (Mirror):** Mirroring writes the same data across multiple disk, creating a mirror copy. This provides redundancy in case one drive fails.
	OFF	
	ON	**RAID 3:** Uses striping to write data to multiple disks like RAID 0, but reserves one disk for parity. The single parity disk is a bottle-neck for writing since every write requires updating the parity data. Failure of any one disk will still allow access to the data, until the disk is replaced.
	OFF	
	ON	**RAID 5:** Uses striping to write data to multiple disks simultaneously and distribute parity across multiple disks. Failure of any one disk will still allow access to the data, until the disk is replaced.
	OFF	
	ON	**RAID 01 (0+1):** Creates a mirrored array, then stripes each mirrored disk. Combines the performance of RAID 0 with the redundancy of RAID 1.
	OFF	

Drive Status Indicators

LED	Status	Description
	ON	An error has been detected on one or more hard drive.
	OFF	
	ON	RAID array is currently rebuilding.
	OFF	

eSATA/USB/FireWire Connectivity

The LED indicators will show which host interface is currently active on the enclosure. To switch interfaces, shut the enclosure off and disconnect old cable and then connect the new cable and turn the enclosure back on. Only one interface can be active at a time, so it is recommended that only one cable be connected at a time to ensure the proper interface is chosen.

LED	Status	Description
	ON	eSATA connection active
	OFF	
	ON	USB connection active
	OFF	
	ON	FireWire interface active
	OFF	

Fan Speed Control

The cooling Smart Fan is automatically controlled by an integrated thermal sensor, but can also be set manually. The fan is capable of running at 3 different speeds depending on the temperature range of the enclosure (less than 45°C, between 45-54°C, and greater than 55°C), or set manually to run constantly at a single speed.

LED	Status	Description
	ON	Smart Fan Auto Mode
	OFF	
	ON	Smart Fan Manual Mode
	OFF	
	ON	Low Speed - 1200RPM (Manual Mode only)
	OFF	
	ON	Medium Speed - 1800RPM (Manual Mode only)
	OFF	
	ON	High Speed - 2500RPM (Manual Mode only)
	OFF	

Pressing the Fan button will toggle between Auto and Manual modes and toggle between the different manual fan speeds.

Troubleshooting

Only one drive shows up over eSATA

If only one of the installed hard drives is visible on the computer when connected over eSATA, ensure that the eSATA port on your computer system supports Port Multiplier technology.

Specifications

Bus Interface	USB 2.0, SATA 3.0 Gb/s, FireWire800
External Connectors	1 x USB type B 1 x eSATA* 1 x 6-pin FireWire 2 x 9-pin FireWire 1 x DIN power connector
Chipset	PLX OXUFS936QSE
RAID Modes	Span, 0, 1, 3, 5, 0+1
LEDs	3 x Fan Speed 2 x Fan Mode 3 x Interface Link 6 x RAID Mode 1 x Rebuild 1 x Hard Drive Error 1 x Power
Maximum Data Transfer Rate	USB 2.0: 480 Mbps eSATA: 3.0 Gbps FireWire400: 400Mbps FireWire800: 800 Mbps
Fans	1 x 80mm
Number of Hard Drives	Up to 4
Hard Drive Compatibility	3.5” SATA 1.5/3.0 Gbps Hard Drives, tested up to 2.0TB

Specifications - Continued

Power Adapter	12VDC, 5A
Dimensions	215.0mm x 126.0mm x 170.0mm
Weight	1.8kg
Compatible Operating Systems	Windows 2000/XP/Server 2003/ Vista, Mac OS 10.3 or later, Linux

* eSATA host controller requires Port Multiplier support

Technical Support

StarTech.com's lifetime technical support is an integral part of our commitment to provide industry-leading solutions. If you ever need help with your product, visit www.startech.com/support and access our comprehensive selection of online tools, documentation, and downloads.

Warranty Information

This product is backed by a one year warranty.

In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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